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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

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| EXAMINER |
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DANIEL JR, WILLIE J

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| ART UNIT | PAPER NUMBER |
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2686

DATE MAILED: 07/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/919,858

Applicant(s)

SATO ET AL.

Examiner

Willie J. Daniel, Jr.

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/02/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 08/02/2001.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. **Figure 1** (see pg. 15, lines 8-9) should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 16, 18, 21** are rejected under 35 U.S.C. 102(e) as being anticipated by Kumar (US 6,269,080 B1).

Regarding **Claim 16**, Kumar discloses of a wireless terminal (722) which receives multicast information distributed from an information distribution apparatus (720) via a wireless region, and receives information retransmitted from the information distribution apparatus (720) according to a retransmission control (see col. 5, line 65 - col. 6, line 6; col. 6, lines 45-51; Figs. 3, 7-8), comprising:

timing determination means for determining a timing for transmitting a retransmission request for information which requires retransmission (see col. 6, line 65 - col. 7, line 21; col. 8, lines 35-49; col. 12, lines 16-30; Figs. 4, 6, 11, 12B), where the FDSP client transmits a retransmission request when the client has determined that the data multicasted has not been received in which the timing determination means would be inherent by acknowledging the TTL packet for requested retransmission; and

retransmission control means (FDSP) for transmitting the retransmission request for the information with respect to the information distribution apparatus (720) at the timing determined by said timing determination means (see col. 6, line 65 - col. 7, line 10; col. 8,

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lines 21-29;40-51; col. 12, lines 16-30; Figs. 4, 6-8, 11, 12B), where the FDSP client request retransmission at the time it determines the data has not been received in which the timing determination means would be inherent for the distribution of the data to the FDSP client from the FDSP server by acknowledging the TTL packet for requested retransmission;

said retransmission control means (FDSP) making no retransmission request for the information if the retransmission information is received before the timing determined by said timing determination means, so as to receive the information retransmitted from the information distribution apparatus at the predetermined timing (see col. 6, lines 65-67; col. 7, lines 21-24; col. 8, lines 35-44,52-61; col. 13, lines 2-7; Figs. 4 'ref. 405', 12 'ref. 1204' 'ref. 1210'), where the FDSP client provides an acknowledgement indicating the data file was received before the end of the TTL packet in which the predetermined timing would be inherent for retransmitting the data for that time period.

Regarding **Claim 18**, Kumar discloses of a FDSP server (720) which reads on the claimed "wireless base station" for distributing multicast information with respect to a plurality of wireless terminals (722) within a service area (see col. 5, line 65 - col. 6, line 6; col. 6, lines 45-51; Figs. 3, 7-8), comprising:

notifying means (720) for notifying retransmission information which indicates that predetermined information is requested by a retransmission request to each of the wireless terminals (722) within the service area, in response to the retransmission request from an arbitrary wireless terminal (722) within the service area (see col. 6, line 65 - col. 7, line 24; col. 12, lines 16-30,40-48; Figs. 4, 12A-B), where the FDSP server retransmits the requested data to the FDSP clients after receiving a retransmission request.

Regarding **Claim 21**, Kumar discloses of a wireless terminal (722) which is usable within an arbitrary service area (see col. 5, line 65 - col. 6, line 6; col. 6, lines 45-51; Figs. 3, 7-8), comprising:

retransmission request means (722) for making a retransmission request with respect to a FDSP server (720) which reads on the claimed "wireless base station" when predetermined information which requires retransmission is generated (see col. 6, lines 65-67; col. 7, lines 4-24; Figs. 4, 7-8, 12A-B), where the FDSP client requests retransmission of data; and

control means (FDSP) for discontinuing transmission of the retransmission request for the predetermined information from said retransmission request means when notified of retransmission information which indicates that a retransmission request for the predetermined information is made from another wireless terminal (724) within the arbitrary service area at a timing before said retransmission request means makes the retransmission request (see col. 6, lines 50-51, 65-67; col. 7, lines 21-24; col. 8, lines 35-44, 52-61; col. 13, lines 2-7; Figs. 4 'ref. 405', 12 'ref. 1204' 'ref. 1210'), where the FDSP client provides an acknowledgement indicating the data file was received before the end of the TTL packet in which the FDSP server would not retransmit the information that has been distributed.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-4, 6-9, 11-14, 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (US 6,269,080 B1) in view of Fukushima et al. (hereinafter Fukushima) (EP 1006689 A2).

Regarding **Claim 1**, Kumar discloses of a retransmission control method for a multicast file distribution and synchronization protocol (FDSP) which reads on the claimed “information distribution service” which distributes multicast data which reads on the claimed “information” with respect to a plurality of FDSP clients (722) which reads on the claimed “wireless terminals” within a service area from an FDSP server (720) which reads on the claimed “information distribution apparatus” via a wireless region (see col. 5, line 65 - col. 6, line 6; col. 6, lines 45-51; Figs. 3, 7-8), comprising the steps of:

(a) transmitting a retransmission request for information which requires retransmission, from an arbitrary wireless terminal (722) to the information distribution apparatus (720), at a timing determined by the wireless terminal (722) when the information which requires retransmission is generated (see col. 6, line 65 - col. 7, line 4; col. 7, lines 4-10, 21-24; col. 8, lines 38-47), where the FDSP client transmits a retransmission request in which the timing would be obvious according to the TTL packet that is used for the retransmission request of

packets related to a particular data file before the additional data files are distributed to the clients;

(b) after receiving the retransmission request for the information from the arbitrary wireless terminal (722) within the service area, notifying retransmission information indicating the information requested by the retransmission request with respect to each of the wireless terminals (722) within the service area from the information distribution apparatus (720) (see col. 6, line 64 - col. 7, line 20; Fig. 4), where the retransmission request by the FDSP client indicates the data to be retransmitted to the FDSP client by the FDSP server, and

(c) making no retransmission request for the information from each of the wireless terminals (722) if the retransmission information is received by each of the wireless terminals (722) before the predetermined timing, so that each of the wireless terminals (722) receives the information retransmitted from the information distribution apparatus (720) at the predetermined timing (see col. 6, lines 65-67; col. 7, lines 21-24; col. 13, lines 2-7; Figs. 4 'ref. 405', 12 'ref. 1204' 'ref. 1210'), where the active receiver provides an acknowledgement indicating the data file was received before the end of the TTL packet in which the predetermined timing would be obvious. Kumar fails to disclose the feature of retransmitting the information requested by the retransmission request from the information distribution apparatus at a predetermined timing. However, the examiner maintains that the feature of retransmitting the information requested by the retransmission request from the information distribution apparatus at a predetermined timing was well known in the art, as taught by Fukushima.



In the same field of endeavor, Fukushima discloses the feature of retransmitting the packet which reads on the claimed “information” requested by the retransmission request from the server which reads on the claimed “information distribution apparatus” at a predetermined timing (see col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; Figs. 12, 14, 28b).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature of retransmitting the information requested by the retransmission request from the information distribution apparatus at a predetermined timing, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 2**, Kumar discloses of

(d) intensively managing in the information distribution apparatus (720) retransmission requests for the same information made with respect to the same multicast information distribution service (FDSP) until the predetermined timing (see col. 7, lines 4-41; col. 8, lines 40-51; col. 12, lines 16-30, 40-48; col. 15, line 65 - col. 16, line 10; Fig. 11 ‘ref. 1106’), where separate data files are used to categorize the data that is to be distributed by the FDSP server into separate groupings of data files for multicasting in which the predetermined timing would be obvious for the retransmitting of the data. Also, with group management the FDSP server is aware of the units that are “join” or “sign-off” that have received the distributed file in order to distribute that data to clients that were not involved in the initial transmission of the data. Kumar fails to disclose having the feature retransmitting from the information distribution apparatus information related to intensively managed retransmission

requests at the predetermined timing. However, the examiner maintains that the feature retransmitting from the information distribution apparatus information related to intensively managed retransmission requests at the predetermined timing was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature retransmitting from the information distribution apparatus information related to intensively managed retransmission requests at the predetermined timing (see col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; Figs. 12, 14, 28b), where the server manages the distribution of retransmitting packets according to priority and sequence.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature retransmitting from the information distribution apparatus information related to intensively managed retransmission requests at the predetermined timing, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 3**, Kumar discloses of notifying each of the wireless terminals (722) within the service area from the information distribution apparatus (720) information related to a transmission channel (see col. 7, lines 4-20; Figs. 4, 7-8), where the FDSP client receives the data from the FDSP server in which the notification of the channel would be obvious, and a transmission timing for notifying the retransmission information and information related to a transmission channel for retransmitting the information requested by the retransmission request (see col. 6, line 65 - col. 7, lines 4-20; col. 8, lines 35-51; Figs. 4, 7-8,

11), where the FDSP client request the data for retransmission according to the timing of the TTL packet response in which the channel to receive the data would be obvious;

(e) receiving the retransmission information by each of the wireless terminals (722) within the service area based on the information which is received from the information distribution apparatus (720) and is related to the transmission channel and the transmission timing for notifying the retransmission information (see col. 6, line 65 - col. 7, lines 4-20; col. 8, lines 35-51; Figs. 4, 7-8, 11), where the FDSP client request the data for retransmission according to the timing of the TTL packet response in which the channel to receive the data would be obvious for retransmitting the data segments to the FDSP client from the FDSP server, and

receiving the information retransmitted from the information distribution apparatus (720) based on the information related to the transmission channel for retransmitting the information (see col. 6, line 65 - col. 7, lines 4-20; col. 8, lines 21-29, 35-51; Figs. 4, 7-8, 11), where the FDSP client request the data for retransmission in which the channel to receive the data would be obvious for retransmitting the data segments to the FDSP client from the FDSP server using links (channels). Kumar fails to disclose having the feature including information related to the predetermined timing at which the information requested by the retransmission request is retransmitted in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus. However, the examiner maintains that the feature including information related to the predetermined timing at which the information requested by the retransmission request is retransmitted in the retransmission

information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature including information related to the predetermined timing at which the information requested by the retransmission request is retransmitted in the retransmission information (see col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; col. 57, [0325] - col. 58, [0329]; Figs. 12, 14, 34a-c), where the server manages the distribution of retransmitting packets which includes the information related to the packet, and

the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus (see col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; col. 57, [0325] - col. 58, [0329]; Figs. 12, 14, 34a-c), where the server manages the distribution of retransmitting packets which includes the information related to the packet.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature including information related to the predetermined timing at which the information requested by the retransmission request is retransmitted in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 4**, Kumar discloses of (d) managing the information requested by the retransmission request in categories according to a predetermined rule (see col. 7, lines 4-24; col. 8, lines 11-24; col. 12, lines 16-30,40-48; col. 15, line 65 - col. 16, line 10; Fig. 11 'ref. 1106'), where the FDSP server has separate data files that are used to categorize the data into separate groups that are to be multicasted in which the predetermined rule would be obvious for the retransmitting of the data. Also, with group management the FDSP server is aware of the units that are "join" or "sign-off" that have received the distributed file in order to distribute that data to clients that were not involved in the initial transmission of the data. Kumar fails to disclose having the feature managing timings for retransmitting the information for each of the categories, in the information distribution apparatus. However, the examiner maintains that the feature managing timings for retransmitting the information for each of the categories, in the information distribution apparatus was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature managing timings for retransmitting the information for each of the categories, in the information distribution apparatus (see col. 28, [0122-0123]; col. 30, [0140-0141]; Figs. 12, 14, 28b), where the server manages the distribution of retransmitting packets according to priority and sequence to distribute at a certain time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature managing timings for retransmitting the information for each of the categories, in the

information distribution apparatus, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 6**, Kumar discloses of a retransmission control system for a multicast information distribution service (FDSP) which distributes multicast information with respect to a plurality of wireless terminals (722) within a service area from an information distribution apparatus (720) via a wireless region (see col. 5, line 65 - col. 6, line 6; col. 6, lines 45-51; Figs. 7-8), comprising:

timing determination means, in each wireless terminal (722), for determining a timing at which a retransmission request for information which requires retransmission is to be transmitted when the information which requires retransmission is generated (see col. 6, line 65 - col. 7, line 21; col. 8, lines 35-49; col. 12, lines 16-30; Figs. 4, 6, 11, 12B), where the FDSP client transmits a retransmission request when the client has determined that the data multicasted has not been received in which the timing determination means would be obvious for responding to the TTL packet that retransmits data for that time period;

first retransmission control means (FDSP), in each wireless terminal (722), for transmitting the retransmission request for the information with respect to the information distribution apparatus (720) at the timing determined by said timing determination means (see col. 6, line 65 - col. 7, line 10; col. 8, lines 21-29; 40-51; col. 12, lines 16-30; Figs. 4, 6-8, 11, 12B), where the FDSP client request retransmission at the time it determines the data has not been received in which the timing determination means would be obvious for the distribution of the data to the FDSP client from the FDSP server;

retransmission control information managing means (FDSP), in the information distribution apparatus (720), for managing retransmission information indicating the information requested by the retransmission request after receiving the retransmission request for the information from an arbitrary wireless terminal (722) within the service area (see col. 7, lines 4-41; col. 12, lines 16-30,40-48; Figs. 4, 7-8, 12A), where separate data files are used to categorize the data that is to be distributed by the FDSP server into separate groupings of data files for multicasting. Also, with group management the FDSP server is aware of the units that are “join” or “sign-off” that have received the distributed file in order to distribute that data to clients that were not involved in the initial transmission of the data.; and

wherein each wireless terminal (722) makes no retransmission request for the information by the first retransmission control means if the retransmission information is received before the timing determined by said timing determination means, so that each wireless terminal (722) receives the information retransmitted from the information distribution apparatus at the predetermined timing (see col. 6, lines 65-67; col. 7, lines 21-24; col. 8, lines 35-44,52-61; col. 13, lines 2-7; Figs. 4 ‘ref. 405’, 12 ‘ref. 1204’ ‘ref. 1210’), where the active receiver provides an acknowledgement indicating the data file was received before the end of the TTL packet in which the predetermined timing would be obvious. Kumar fails to disclose the feature of second retransmission control means, in the information distribution apparatus, for transmitting information related to the retransmission request indicated by the retransmission information to each wireless terminal within the service area at a predetermined timing. However, the examiner maintains that the feature of second retransmission control means, in the information distribution apparatus, for transmitting information related to the

retransmission request indicated by the retransmission information to each wireless terminal within the service area at a predetermined timing was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature retransmission decision unit (16a) which reads on the claimed “second retransmission control means”, in the information distribution apparatus, for transmitting information related to the retransmission request indicated by the retransmission information to each wireless terminal within the service area at a predetermined timing (see col. 27, [0113]; col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; Figs. 12, 14, 28b), where the terminal receives the requested packet (information) that is retransmitted from the server at a predetermined time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature of second retransmission control means, in the information distribution apparatus, for transmitting information related to the retransmission request indicated by the retransmission information to each wireless terminal within the service area at a predetermined timing, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 7**, Kumar discloses of distribution information managing means (FDSP), in the information distribution apparatus (720), for intensively managing retransmission requests for the same information made with respect to the same multicast information distribution service (FDSP) until the predetermined timing (see col. 7, lines 4-41; col. 8, lines 40-51; col. 12, lines 16-30, 40-48; col. 15, line 65 - col. 16, line 10; Fig. 11 ‘ref. 1106’), where separate data files are used to categorize the data that is to be distributed by the



FDSP server into separate groupings of data files for multicasting in which the predetermined timing would be obvious for the retransmitting of the data. Also, with group management the FDSP server is aware of the units that are “join” or “sign-off” that have received the distributed file in order to distribute that data to clients that were not involved in the initial transmission of the data. Kumar fails to disclose having the feature said second retransmission control means retransmitting information related to the retransmission requests intensively managed by said distribution information managing means at the predetermined timing. However, the examiner maintains that the feature said second retransmission control means retransmitting information related to the retransmission requests intensively managed by said distribution information managing means at the predetermined timing was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature said second retransmission control means (16a) retransmitting information related to the retransmission requests intensively managed by said distribution information managing means at the predetermined timing (see col. 27, [0113]; col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; Figs. 1a, 12, 14, 28b), where the server manages the distribution of retransmitting packets according to priority and sequence.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature said second retransmission control means retransmitting information related to the retransmission requests intensively managed by said distribution information managing

means at the predetermined timing, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 8**, Kumar discloses of said information distribution apparatus (720) notifies each of the wireless terminals (722) within the service area information related to a transmission channel (see col. 7, lines 4-20; col. 12, lines 16-30,40-48; Figs. 4, 7-8), where the FDSP client receives the data from the FDSP server in which the notification of the channel for transmitting the data file that is to be retransmitted to the FDSP clients using links (channels) would be obvious, and

a transmission timing for notifying the retransmission information and information related to a transmission channel for retransmitting the information requested by the retransmission request, by the second retransmission control means (FDSP) (see col. 6, line 59 - col. 7, lines 4-20; col. 8, lines 21-29; 35-51; Fig. 4, 7-8, 11), where the FDSP client request the data for retransmission according to the timing of the TTL packet response in which the channel to receive the data would be obvious for the data file to be retransmitted to the FDSP clients using links (channels) while controlling the flow of the network for data distribution in which the transmission timing would be obvious, and

said first retransmission control means (722) in each wireless terminal (722) receives the retransmission information based on the information which is received from the information distribution apparatus (720) and is related to the transmission channel and the transmission timing for notifying the retransmission information (see col. 6, line 65 - col. 7, lines 4-20; col. 8, lines 35-51; Figs. 4, 7-8, 11), where the FDSP client request the data for retransmission according to the timing of the TTL packet response in which the channel to

receive the data would be obvious for retransmitting the data segments to the FDSP client from the FDSP server, and

receives the information retransmitted from the information distribution apparatus (720) based on the information related to the transmission channel for retransmitting the information (see col. 6, line 65 - col. 7, lines 4-20; col. 8, lines 21-29, 35-51; Figs. 4, 7-8, 11), where the FDSP client request the data for retransmission in which the channel to receive the data would be obvious for retransmitting the data segments to the FDSP client from the FDSP server using links (channels). Kumar fails to disclose having the features information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus. However, the examiner maintains that the features the feature information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information (see col. 27, [0113]; col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; col. 57, [0325] - col. 58, [0329]; Figs. 12, 14,

34a-c), where the server manages the distribution of retransmitting packets which includes the information related to the packet, and

the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus (server) (see col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; col. 57, [0325] - col. 58, [0329]; Figs. 12, 14, 34a-c); where the server manages the distribution of retransmitting packets which includes the information related to the packet.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the features information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 9**, Kumar discloses of managing means (FDSP), in the information distribution apparatus (720), for managing the information requested by the retransmission request in categories according to a predetermined rule (see col. 7, lines 4-24; col. 8, lines 11-24; col. 12, lines 16-30, 40-48; col. 15, line 65 - col. 16, line 10; Fig. 11 'ref. 1106'), where the FDSP server has separate data files that are used to categorize the data into separate groups that are to be multicasted in which the predetermined rule would be obvious for the retransmitting of the data. Also, with group management the FDSP server is aware of the units that are "join" or "sign-off" that have received the distributed file in order to distribute

that data to clients that were not involved in the initial transmission of the data. Kumar fails to disclose having the feature managing timings for retransmitting the information for each of the categories. However, the examiner maintains that the feature managing timings for retransmitting the information for each of the categories was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature managing timings for retransmitting the information for each of the categories (see col. 27, [0113]; col. 28, [0122-0123] lines 48-55; col. 30, [0140-0141] lines 40-46; Figs. 12, 14, 28b), where the server manages the distribution of retransmitting packets according to priority and sequence to distribute at a certain time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature managing timings for retransmitting the information for each of the categories, in order to retransmit packets at a predetermined transmission timing, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 11**, Kumar discloses of a retransmission control apparatus (FDSP) which is provided in an information distribution apparatus (720) which distributes multicast information with respect to a plurality of wireless terminals (722) within a service area via a wireless region and controls retransmission of information (see col. 5, line 65 - col. 6, line 6; col. 6, lines 45-51; Figs. 7-8), comprising:

retransmission information transmission control means (720) for notifying retransmission information indicating information requested by a retransmission request with respect to each

of the wireless terminals (722) within the service area after receiving the retransmission request from an arbitrary wireless terminal (722) within the service area (see col. 6, line 64 - col. 7, line 20; Figs. 4, 7-8), where the FDSP server retransmits data to the FDSP clients after receiving the retransmission request; and

so that each of the wireless terminals (722) determines whether or not to make a retransmission request for the information by referring to the retransmission information notified by said retransmission information transmission control means (720) when information which requires retransmission is generated (see col. 6, lines 50-51, 65-67; col. 7, lines 21-24, 40-42; col. 8, lines 35-44, 52-61; col. 13, lines 2-7; Figs. 4 'ref. 405', 12 'ref. 1204' 'ref. 1210'), where the FDSP client is able to determine whether or not the data files were received in which the FDSP client would provide a positive or negative acknowledgement for the retransmission by the FDSP server. Kumar fails to disclose the feature of retransmission control means for transmitting the information requested by the retransmission request and indicated by the retransmission information at a predetermined timing. However, the examiner maintains that the feature of retransmission control means for transmitting the information requested by the retransmission request and indicated by the retransmission information at a predetermined timing was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature of retransmission control means (16a) for transmitting the information requested by the retransmission request and indicated by the retransmission information at a predetermined timing (see col. 27, [0113]; col. 28, [0122]

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lines 48-55; col. 30, [0140] lines 40-46; Figs. 1a, 12, 14, 28b), where the packet is retransmitted by the server to the terminal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature of retransmission control means for transmitting the information requested by the retransmission request and indicated by the retransmission information at a predetermined timing, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 12**, Kumar discloses of distribution information managing means (FDSP), in the information distribution apparatus (720), for intensively managing retransmission requests for the same information made with respect to the same multicast information distribution service until the predetermined timing (see col. 7, lines 4-41; col. 8, lines 40-51; col. 12, lines 16-30, 40-48; col. 15, line 65 - col. 16, line 10; Fig. 11 'ref. 1106'), where separate data files are used to categorize the data that is to be distributed by the FDSP server into separate groupings of data files for multicasting in which the predetermined timing would be obvious for the retransmitting of the data. Also, with group management the FDSP server is aware of the units that are "join" or "sign-off" that have received the distributed file in order to distribute that data to clients that were not involved in the initial transmission of the data. Kumar fails to disclose having the feature said retransmission control means retransmitting information related to the retransmission requests intensively managed by said distribution information managing means at the predetermined timing. However, the examiner maintains that the feature said retransmission control means

retransmitting information related to the retransmission requests intensively managed by said distribution information managing means at the predetermined timing was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature said retransmission control means (16a) retransmitting information related to the retransmission requests intensively managed by said distribution information managing means at the predetermined timing (see col. 27, [0113]; col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; Figs. 1a, 12, 14, 28b), where the server manages the distribution of retransmitting packets according to priority and sequence.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature said retransmission control means retransmitting information related to the retransmission requests intensively managed by said distribution information managing means at the predetermined timing, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 13**, Kumar discloses of the retransmission control means (720) notifies each of the wireless terminals (722) within the service area information related to a transmission channel (see col. 7, lines 4-20; col. 12, lines 16-30, 40-48; Figs. 4, 7-8), where the FDSP client receives the data from the FDSP server in which the notification of the channel for transmitting the data file that is to be retransmitted to the FDSP clients using links (channels) would be obvious, and

a transmission timing for notifying the retransmission information and information related to a transmission channel for retransmitting the information requested by the



retransmission request, so that each of the wireless terminals (722) within the service area receives the information which is retransmitted, based on the information included in the retransmission information and the information which is notified by said retransmission control means (FDSP) (see col. 6, line 59 - col. 7, lines 4-20; col. 8, lines 21-29; 35-51; Fig. 4, 7-8, 11), where the FDSP client request the data for retransmission according to the timing of the TTL packet response in which the channel to receive the data would be obvious for the data file to be retransmitted to the FDSP clients using links (channels) while controlling the flow of the network for data distribution in which the transmission timing would be obvious. Kumar fails to disclose having the feature information which is related to the predetermined timing at which the retransmission of the information requested by the retransmission request is made, is included in the retransmission information. However, the examiner maintains that the features information which is related to the predetermined timing at which the retransmission of the information requested by the retransmission request is made, is included in the retransmission information was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature information which is related to the predetermined timing at which the retransmission of the information requested by the retransmission request is made, is included in the retransmission information (see col. 27, [0113]; col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; col. 57, [0325] - col. 58, [0329]; Figs. 12, 14, 34a-c), where the server manages the distribution of retransmitting packets which includes the information related to the packet.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature information which is related to the predetermined timing at which the retransmission of the information requested by the retransmission request is made, is included in the retransmission information, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 14**, Kumar discloses of managing means (FDSP) for managing the information requested by the retransmission request in categories according to a predetermined rule (see col. 7, lines 4-24; col. 8, lines 11-24; col. 12, lines 16-30,40-48; col. 15, line 65 - col. 16, line 10; Fig. 11 'ref. 1106'), where the FDSP server has separate data files that are used to categorize the data into separate groups that are to be multicasted in which the predetermined rule would be obvious for the retransmitting of the data. Also, with group management the FDSP server is aware of the units that are "join" or "sign-off" that have received the distributed file in order to distribute that data to clients that were not involved in the initial transmission of the data. Kumar fails to disclose having the feature managing timings for retransmitting the information for each of the categories. However, the examiner maintains that the feature managing timings for retransmitting the information for each of the categories was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature managing timings for retransmitting the information for each of the categories (see col. 27, [0113]; col. 28, [0122-0123]; col. 30, [0140-0141]; Figs. 12, 14, 28b), where the server manages the distribution of retransmitting

packets according to priority and sequence to be distributed at a certain time where the categories would be obvious.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the feature managing timings for retransmitting the information for each of the categories, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

Regarding **Claim 17**, Kumar discloses of said retransmission control means (FDSP) receives the retransmission information based on the information which is received from the information distribution apparatus (720) and is related to the transmission channel and the transmission timing for notifying the retransmission information (see col. 6, line 58 - col. 7, line 20; col. 8, lines 21-29; 35-51; col. 12, lines 16-30, 40-48; Figs. 4, 7-8, 11), where the FDSP client receives the data from the FDSP server in which a channel for transmitting the data file that is to be retransmitted to the FDSP clients using links (channels) would be obvious while controlling the flow of the network for data distribution. The data for retransmission according to the timing of the TTL packet response is used for notifying the requested information retransmission in which the transmission timing would be obvious, and

receives the information retransmitted from the information distribution apparatus based on the information related to the transmission channel for retransmitting the information (see col. 6, line 65 - col. 7, lines 4-20; col. 8, lines 21-29, 35-51; Figs. 4, 7-8, 11), where the FDSP client request the data for retransmission in which the channel to receive the data would be obvious for retransmitting the data segments to the FDSP client from the FDSP

server using links (channels). Kumar fails to disclose having the features information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus. However, the examiner maintains that the features information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus was well known in the art, as taught by Fukushima.

Fukushima further discloses the feature information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information (see col. 27, [0113]; col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; col. 57, [0325] - col. 58, [0329]; Figs. 12, 14, 34a-c), where the server manages the distribution of retransmitting packets which includes the information related to the packet, and

the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus (server) (see col. 28, [0122] lines 48-55; col. 30, [0140] lines 40-46; col. 57, [0325] - col. 58, [0329]; Figs. 12, 14, 34a-c), where the server manages the distribution of retransmitting packets which includes the information related to the packet.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Fukushima to have the features information which is related to the predetermined timing at which the information requested by the retransmission request is retransmitted, is included in the retransmission information, and the information related to the predetermined timing included in the retransmission information which are received from the information distribution apparatus, in order to retransmit packets at a predetermined transmission timing, as taught by Fukushima.

**Claims 5, 10, 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (US 6,269,080 B1) in view of Fukushima et al. (hereinafter Fukushima) (EP 1006689 A2) as applied to claim 1 above, and further in view of Marturano et al. (hereinafter Marturano) (US 5,636,230).

Regarding **Claim 5**, the combination of Kumar and Fukushima discloses of the retransmitting of the information requested by the retransmission request depending on the multicast information which is distributed from the information distribution apparatus (720) (see Kumar - col. 6, line 61 - col. 7, line 10; col. 12, line 50 - col. 13, line 11; col. 14, lines 25-42; Fig. 4), where the FDSP server retransmits the multicast data file segments that have not been received. The combination of Kumar and Fukushima fails to disclose having the feature of controlling an upper limit value of a number of retransmissions. However, the examiner maintains that the feature of controlling an upper limit value of a number of retransmissions was well known in the art, as taught by Marturano.

In the same field of endeavor, Marturano discloses of the feature of controlling a counter limit value which reads on the claimed “upper limit value of a number of retransmissions” (see col. 2, lines 22-34,55-63; Figs. 1-3), where the resending of data blocks has a counter limit value that the retransmissions can not exceed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar, Fukushima, and Marturano to have the feature of controlling an upper limit value of a number of retransmissions, in order to provide enhanced efficiency when communicating data messages within a broadcast data communication system, as taught by Marturano.

Regarding **Claim 10**, the combination of Kumar and Fukushima discloses of the retransmitting of the information requested by the retransmission request depending on the multicast information which is distributed from the information distribution apparatus (720) (see Kumar - col. 6, line 61 - col. 7, line 10; col. 12, line 50 - col. 13, line 11; col. 14, lines 25-42; Fig. 4), where the FDSP server retransmits the multicast data file segments that have not been received, and Fukushima discloses of having a sequence number/retransmission count insertion unit (34) which reads on the claimed “retransmission control information managing means”, in the information distribution apparatus (see Fukushima - col. 26, line 56 - col. 27, line 23; Figs. 10, 12, 14), where insertion unit manages the counts of the retransmission of packets. The combination of Kumar and Fukushima fails to disclose the feature for managing an upper limit value of a number of retransmissions. However, the examiner maintains that the feature for managing an upper limit value of a number of retransmissions was well known in the art, as taught by Marturano.

Marturano further discloses of the feature for managing an upper limit value of a number of retransmissions (see col. 2, lines 22-34,55-63; Figs. 1-3), where the resending of data blocks has a counter limit value that the retransmissions can not exceed in which the resend count keeps track of retransmissions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar, Fukushima, and Marturano to have the feature for managing an upper limit value of a number of retransmissions, in order to provide enhanced efficiency when communicating data messages within a broadcast data communication system, as taught by Marturano.

Regarding **Claim 15**, the combination of Kumar and Fukushima discloses of the retransmitting of the information requested by the retransmission request depending on the multicast information which is distributed (see Kumar - col. 6, line 61 - col. 7, line 10; col. 12, line 50 - col. 13, line 11; col. 14, lines 25-42; Fig. 4), where the FDSP server retransmits the multicast data file segments that have not been received, and Fukushima discloses of having retransmission control information management control means, in the information distribution apparatus (see Fukushima - col. 26, line 56 - col. 27, line 23; Figs. 10, 12, 14), where the server has a sequence number/retransmission count insertion unit (34) that manages the counts of the retransmission of packets in which the retransmission control information management control means would be obvious. The combination of Kumar and Fukushima fails to disclose the feature for managing an upper limit value of a number of retransmissions. However, the examiner maintains that the feature for managing an upper

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limit value of a number of retransmissions was well known in the art, as taught by Marturano.

Marturano further discloses of the feature for managing an upper limit value of a number of retransmissions (see col. 2, lines 22-34, 55-63; Figs. 1-3), where the resending of data blocks has a counter limit value that the retransmissions can not exceed in which the resend count keeps track of retransmissions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar, Fukushima, and Marturano to have the feature for managing an upper limit value of a number of retransmissions, in order to provide enhanced efficiency when communicating data messages within a broadcast data communication system, as taught by Marturano.

**Claims 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (US 6,269,080 B1) <sup>as applied above to claim 18</sup> in view of Buskens et al. (hereinafter Buskens) (US 5,905,871).

Regarding **Claim 19**, Kumar <sup>further</sup> discloses of retransmitting means (720) for retransmitting the predetermined information requested by the retransmission request to each of the wireless terminals (722) within the service area (see col. 6, lines 45-51, 65-67; col. 7, lines 4-41; col. 13, lines 21-31; Figs. 4, 7-8, 12A-B), where the FDSP server retransmits the information requested by the FDSP client. Buskens fails to disclose having the feature of retransmitting information at a timing which can be set arbitrarily. However, the examiner maintains that the feature of retransmitting information at a timing which can be set arbitrarily was well known in the art, as taught by Buskens.



In the same field of endeavor, Buskens discloses of having the feature of retransmitting information at a timing which can be set arbitrarily (see col. 5, lines 29-38,43-65; col. 6, line 45 - col. 7, line 26; col. 11, lines 40-57; Figs. 2, 4, 6-7), where the retransmitting of data can be set according to the Scheduler and timer functions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kumar and Buskens to have the feature of retransmitting information at a timing which can be set arbitrarily, in order to have data retransmitted by a timing which can be set arbitrarily, as taught by Buskens.

Regarding **Claim 20**, the combination of Kumar and Buskens discloses every limitation claimed, as applied above (see claim 19), in addition Kumar further discloses of wherein said retransmitting means (720) copes with one retransmission of the predetermined information with respect to a plurality of retransmission requests which request the predetermined information, if the retransmission request requesting the predetermined information is received from one or more wireless terminals (722) within the service area before the predetermined information is retransmitted to each of the wireless terminals (722) within the service area (see col. 6, line 61 - col. 7, lines 41; col. 12, lines 16-30,40-48; Figs. 4, 7-8, 12A-B), where the FDSP server responds to the request of the a FDSP client by multicasting the requested data.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Criss et al. (US 6,735,434 B2) discloses "Wireless Software Upgrades With Version Control".

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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WJD,JR/wjd,jr  
05 July 2004

  
7/21/07  
LESTER G. KINCAID  
PRIMARY EXAMINER